

Mineral Industry Surveys

For information, contact:

Joyce A. Ober, Sulfur Commodity Specialist
U.S. Geological Survey
983 National Center
Reston, VA 20192
Telephone: (703) 648-7717, Fax: (703) 648-7757
E-mail: jober@usgs.gov

Raymond I. Eldridge III (Data)
Telephone: (703) 648-7793
Fax: (703) 648-7792
E-mail: reldridg@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

SULFUR IN AUGUST 2005

During the month, production of recovered elemental sulfur was 806,000 metric tons, according to the U.S. Geological Survey. August production was 5% higher than that of July 2005 and slightly lower than that of August 2004. Shipments were 6% higher than those of July 2005. Producers' ending stocks for August 2005 were 175,000 tons. The increase in production was unexpected for August. Further analysis of the data indicates anomalies in reporting, and these results are being verified.

Import and export data for August 2005 were not available at the time of publication and will be published in the Sulfur in September 2005 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for July 2005 were estimated to be 218,000 tons; exports were 64,000 tons. Imports of sulfuric acid for July 2005 were 213,000 tons; exports were 24,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

Hurricane Update

Both Hurricanes Katrina and Rita, which made landfall in the Gulf Coast area on August 29 and September 24, 2005, respectively, led to decreased sulfur production as a result of

precautionary measures taken at oil refineries to prepare for the hurricanes and potential damage caused by the storms.

Eight refineries closed in advance of Katrina in Louisiana and Mississippi, and four of those facilities remained inoperable throughout September. An additional 20 refineries in Louisiana and Texas closed or reduced production as Rita approached the coast, 9 of which had not returned to full capacity by the middle of October.

Most of the refineries are expected to achieve full production by the end of October, but three of the refineries damaged in Katrina had yet to begin the restart process, as of October 19, 2005. They are ConocoPhillips Co.'s Alliance refinery, Exxon Mobil Corp.'s Chalmette refinery, and Murphy Oil Corp.'s Meraux refinery, all located near New Orleans, LA. As long as refineries are operating below capacity and/or shutdown, sulfur production will be less than normal (U.S. Department of Energy, 2005¹; American Petroleum Institute, 2005[§]).

Internet References Cited

American Petroleum Institute, 2005, API hurricane report—October 19, 2005, accessed October 20, 2005, at URL <http://api-ec.api.org/filelibrary/API%20Hurricane%20Update%2010-19.pdf>.

U.S. Department of Energy, 2005a, Hurricane Rita situation report #3—September 23, 2005, accessed October 19, 2005, at URL http://www.electricity.doe.gov/documents/rita_092305.pdf.

¹References that include a section mark (§) are found in the Internet References Cited section.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks ³
	Petroleum ²	Natural gas	Total		
2004:					
January-December	7,390	1,990	9,380	9,410	XX
January-August	4,900	1,340	6,240	6,270	XX
August	651	173	824	838	189
September	599	155	754	757	186
October	598	163	761	765	183
November	622	167	789	771	200
December	664	167	831	846	185
2005:					
January	571	169	740	740	179
February	547	156	703	696	188
March	585	169	754	755	184
April	598	157	755	756	168
May	612	166	778	766	178
June	610	158	768	765	178
July	610 ^r	155	765 ^r	764 ^r	176 ^r
August ^p	640	166	806	808	175
Total	4,780	1,300	6,070	6,050	XX

^pPreliminary. ^rRevised. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes a small quantity from coking operations.

³Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³
2004:						
January-December	2,010	31,300	545	28,200	2,850	76,800
January-July	1,220	19,700	324	18,200	1,760	49,100
July	160	2,790	54	2,550	251	7,150
August	160	2,050	35	1,780	221	5,290
September	160	2,460	49	2,650	240	6,850
October	160	1,740	51	2,170	220	4,370
November	150	2,650	31	1,240	186	5,700
December	160	2,660	55	2,200	226	5,400
2005:						
January	140 ^r	2,070	31	1,070	234 ^r	4,730
February	140 ^r	2,130	50	1,930	240 ^r	6,080
March	140	2,320	40	1,640	180	4,050
April	170 ^r	2,530	47	1,840	254 ^r	5,830
May	170 ^r	1,890	40	1,570	251 ^r	5,140
June	170 ^r	2,460	40	1,780	240 ^r	5,670
July	170	2,650	40	1,490	218	5,610
Total	1,100	16,000	288	11,300	1,620	37,100

^eEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2004:									
January-December	1,920	628	72,500	206	67	6,670	2,390	780	86,300
January-July	1,140	371	37,900	84	28	1,600	1,300	425	42,800
July	160	52	5,660	10	3	357	172	56	6,230
August	133	43	4,920	33	11	937	194	63	6,250
September	150	49	5,080	29	9	1,090	206	67	6,480
October	176	58	6,450	19	6	946	215	70	7,480
November	160	52	5,930	11	4	289	218	71	7,500
December	140	46	4,970	30	10	655	251	82	7,510
2005:									
January	173	57	5,990	30	10	840	248	81	9,490
February	174	57	6,190	(4)	(4)	18	213	70	7,820
March	183	60	7,080	32	10	759	254	83	8,590
April	191	63	7,770	10	3	629	250	82	9,660
May	158	52	6,370	--	--	--	192	63	7,080
June	144	47	5,360	--	--	--	189	62	6,380
July	168	55	6,840	(4)	(4)	5	213	70	7,790
Total	1,190	391	45,600	72	24	2,250	1,560	511	56,800

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2004:					
January-December	949	63,300	204	67	21,300
January-July	396	21,800	97	31	12,500
July	19	1,720	13	4	1,280
August	157	11,500	40	13	3,210
September	107	6,590	11	4	1,090
October	127	7,250	23	8	1,850
November	31	2,280	20	7	1,590
December	130	8,740	13	4	1,120
2005:					
January	22	1,740	13	4	1,590
February	72	5,040	28	9	2,230
March	41	6,270	31	10	2,270
April	94	6,010	51	17	3,280
May	16	1,850	26	8	2,560
June	56	5,920	38	12	3,630
July	64	4,520	24	8	1,920
Total	365	31,300	211	69	17,500

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^c	Consumption
2004:			
January-December	8,470	2,850	11,300
January-July	5,050	1,760	6,800
July	794	251	1,050
August	681	221	902
September	650	240	890
October	638	220	858
November	740	186	926
December	716	226	942
2005:			
January	718	234 ^r	952 ^r
February	624	240 ^r	864 ^r
March	715	180	895
April	662	254 ^r	916 ^r
May	750	251 ^r	1,000 ^r
June	709	240	949
July	700	218	918
Total	4,880	1,620	6,500

^cEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	August 2005 ^p		July 2005		January - August 2005 ²		January - August 2004 ^{r,2}	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	14	14	14 ^r	13 ^r	142	142	160	164
Natural gas	8	8	7	7	32	32	15	15
Total	22	22	21 ^r	20 ^r	174	175	175	178
PAD 2:								
Petroleum and coke	116	119	90	89	696	699	629	631
Natural gas	3	3	3	4	27	27	28	28
Total	119	122	93	93 ^r	723	726	656	659
PAD 3: ³								
Petroleum and coke	400	405	398 ^r	403 ^r	3,040	3,050	3,170	3,200
Natural gas	42	39	39	40 ^r	334	336	351	351
Total	442	444	437 ^r	443 ^r	3,370	3,380	3,530	3,550
PAD 4 and 5: ⁴								
Petroleum and coke	110	107	109 ^r	104 ^r	899	872	939	944
Natural gas	112	115	105	103	902	896	945	940
California	88	84	87 ^r	84 ^r	711	682	717	715
Total	223	221	213 ^r	208 ^r	1,800	1,770	1,880	1,880
Grand total	806	808	765 ^r	764 ^r	6,070	6,050	6,240	6,270

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revisions.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2005			2004
	August	July	Total	total
Production	9.49 ^p	9.01 ^r	9.12 ^r	9.38
Shipments	9.51 ^p	9.00 ^r	9.09 ^r	9.41
Exports of sulfur	NA	0.75	0.63	0.95
Imports of sulfur:				
Canada	NA	2.00 ^e	1.89 ^e	2.01
Mexico	NA	0.47	0.50	0.55
Total ²	NA	2.57 ^e	2.78 ^e	2.85 ^e
Export of H ₂ SO ₄	NA	0.28	0.36	0.20
Import of H ₂ SO ₄ :				
Canada	NA	1.98	2.05	1.92
Europe	NA	(3)	0.12	0.21
Total ²	NA	2.51	2.68	2.39
Consumption: ⁴				
Domestic sources	NA	8.24	8.40	8.35
Imports	NA	2.57 ^e	2.78 ^e	2.85 ^e
Total	NA	10.81	11.18	11.21
Sulfur export values ⁵	NA	\$71	\$86	\$67
Sulfur import values: ⁵				
Canada	NA	\$16	\$15	\$16
Mexico	NA	\$37	\$39	\$52
Average	NA	\$26	\$23	\$27
H ₂ SO ₄ export values ⁵	NA	\$80	\$83	\$105
H ₂ SO ₄ import values: ⁵				
Canada	NA	\$41	\$38	\$38
Europe	NA	\$51	\$31	\$32
Average	NA	\$37	\$36	\$36

^eEstimated. ^pPreliminary. ^rRevised. NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Less than 1/2 unit.

⁴Because August trade data were not available, August consumption was not determined.

⁵Average value per ton for most recent data available.